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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,339	12/15/2003	Rajesh K. Saini	2001-IP-005484U1P1	3700
71/407	7590	04/06/2009		
ROBERT A. KENT P.O. BOX 1431 DUNCAN, OK 73536				
EXAMINER				
LIGHTFOOT, ELENA TSOY				
ART UNIT		PAPER NUMBER		
1792				
NOTIFICATION DATE		DELIVERY MODE		
04/06/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/736,339

Applicant(s)

SAINI ET AL.

Examiner

Elena Tsoy Lightfoot

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

Amendment filed on February 17, 2009 has been entered. Claims 42-61 are pending in the application.

Claim Objections

1. Objection to claim 59 because of the informality has been withdrawn due to amendment.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 42-54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 9-11, 13-17 of copending Application No. 11/046,043 in view of Murphey et al (US 4,829,100) for the reasons of record set forth in the Office Action mailed on 11/14/2008.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (US 6,209,643) in view of Wang et al (US 6,458,867), further in view of Lee et al (US 6,817,414) for the reasons of record set forth in paragraph 5 of the Office Action mailed on 11/14/2008 since amendment does not change the scope of claimed invention.
6. Claims 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Wang et al or Nguyen et al in view of Wang et al, further in view of Lee et al, as applied above, and further in view of McDougall et al (US 5,192,615) for the reasons of record set forth in paragraph 6 of the Office Action mailed on 11/14/2008.
7. Claims 55-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Wang et al or Nguyen et al in view of Wang et al, further in view of Lee et al, as applied above, and further in view of McDougall et al '615.

The cited prior art fails to teach that the fluid suspension further comprises a plasticizer other than starch (Claim 55).

McDougall et al teaches that generally a fracturing fluid comprises a viscous or gelled polymeric solution, a propping agent, a chemical breaker and other additives *commonly* used in fracturing fluids (See column 2, line 65 to column 3, line 1), e.g. fluid loss or wall building agents such as bentonite, silica flour, guar gum and surfactants; friction-reducing agents such as

small amounts of high molecular weight linear polymers such as polyacrylamide; surfactants or alcohol to reduce interfacial tension and the resistance to return flow (See column 8, lines 7-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added bentonite, silica flour, or guar gum to the fluid suspension of Nguyen et al with the expectation of providing the desired control of fluid loss since McDougall et al teaches that starch bentonite, silica flour, or guar gum is an additive *commonly* used in fracturing fluids as a fluid loss or wall building agent.

8. Claims 49-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al in view of Wang et al, further in view of Lee et al, as applied above, and further in view of Tokiwa et al (US 6669771).

As was discussed previously, Nguyen et al discloses that a treatment chemical at least partially coated with a tackifying compound is subsequently released within the subterranean formation (i.e. the tackifying compound is *degradable*) to treat at the portion of formation in contact therewith (See column 12, lines 33-55). The tackifying compound includes *any* compound (See column 5, lines 11-12), e.g. a polyamide (See column 5, lines 21-23) or polyesters, polyethers and polycarbamates, polycarbonates, styrene-butadiene lattices, natural or synthetic resins such as shellac and the like (See column 6, lines 9-14).

The Examiner takes official notice that it is a common knowledge in the art *polyester* or *polyamide* hydrolyze either through acid or base catalysis, to a carboxylic acid (i.e. claimed acid releasing degradable material), as evidenced by **Wang et al** (See column 8, line 66 to column 9, line 12). Although Nguyen et al teaches the tackifying compound includes *any* compound that

adheres to the particles and retards release of the treatment chemical, Nguyen et al fails to teach that the tackifying compound includes other acid releasing compounds.

Lee et al teaches that gravel having *coating* comprising chemicals that slowly hydrolyze and release an acidic by-product (See column 3, lines 6-15), e.g. lactic polymer (**polylactide**)* (See column 3, lines 20-28) can be used to degrade a filter cake (See column 2, lines 52-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used lactic polymer (claimed polylactide) as a tackifying compound in Nguyen et al with the expectation of providing the desired degradation a filter cake since Lee et al teaches that chemicals that slowly hydrolyze and release an acidic by-product e.g. lactic polymer, are suitable to be used to degrade a filter cake, and Nguyen et al does not limit their teaching to particular tackifying compounds. Moreover, it is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Nguyen et al in view of Lee et al fails to teach that the tackifying compound is *polyhydroxybutyrate or polycaprolactone* (Claim 49).

Tokiwa et al teaches that currently known biodegradable resins include chemically synthesized resins, microbially produced resins, and natural product-derived resins (See column 1, lines 31-39) such as an aliphatic *polyester*, *polyhydroxybutyrate*, *polylactic acid* and *polycaprolactone* (See column 2, lines 25-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used polyhydroxybutyrate or polycaprolactone in Nguyen et al in view of Lee et al instead of polyester or polylactic acid with

the expectation of providing the desired degradation a filter cake since Lee et al teaches that chemicals that slowly hydrolyze and release an acidic by-product e.g. lactic polymer, are suitable to be used to degrade a filter cake, and Nguyen et al does not limit their teaching to particular tackifying compounds.

Response to Arguments

Applicants' arguments filed February 17, 2009 have been fully considered but they are not persuasive.

A. Claims 42-54

(i) Applicants submit that although the Examiner alleges that Nguyen does not limit their teaching to particular tackifying compounds, Applicants kindly refer the Examiner to col. 5, lines 10-19 and col. 6, lines 9-14 of Nguyen which discuss suitable tackifying compounds.

The argument is unconvincing because at col. 5, lines 10-19, Nguyen teaches: "Compounds suitable for use as a tackifying compound comprise substantially **any** compound which when in liquid form or in a solvent solution will form a non-hardening coating, by themselves"; and at col. 6, lines 9-14 Nguyen teaches: "**Additional** compounds which may be utilized as tackifying compounds include liquids and solutions of, for example, polyesters, polyethers and polycarbonates, polycarbonates, styrene-butadiene lattices, **natural or synthetic resins** such as shellac and the like". Note that the tackifying compound should be *degradable* since Nguyen teaches that coated treatment chemical is subsequently released within the subterranean formation. Thus, in contrast to Applicants statement, col. 5, lines 10-19 and col. 6, lines 9-14 of Nguyen show that **any (degradable) natural or synthetic resins** may be used as a tackifying compound.

(ii) Applicants submit that the motivation articulated in the Office Action for combining Nguyen, Wang, and Lee is insufficient to support a prima facie case of obviousness. In the Office Action the Examiner alleges: It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used lactic polymer (claimed polylactide) as a tackifying compound in Nguyen et al with the expectation of providing the desired degradation a filter cake since Lee et al teach that chemical that slowly hydrolyze and release an acidic by-product e.g. lactic polymer are suitable to be used to degrade a filter cake, and Nguyen et al do

not limit their teaching to particular tackifying compounds. (Office Action at 5.) However, there is no teaching in Nguyen of the desirability of degrading a filter cake with the tackifying compounds disclosed therein. See Nguyen, entire disclosure. Rather, Nguyen teaches the use of the tackifying compounds to delay the release of a treatment chemical and to aid in the creation of proppant agglomerates. See Nguyen, col. 3, lines 49-57 and col. 12, lines 49-55. Thus, the expectation of providing a desired degradation of a filter cake using chemicals that slowly hydrolyze and release an acidic by-product, would not motivate a person of ordinary skill in the art to include a polylactide as the tackifying compound in the methods of Nguyen. Therefore, Applicants respectfully submit that the motivation to combine these references is insufficient, and as such this combination cannot obviate Applicants' claims. Therefore, Applicants respectfully assert that claims 42-54 are not obviated by the combination of Nguyen, Wang, and Lee.

The Examiner respectfully disagrees with this argument.

As to applicants' remarks that there is no teaching in Nguyen of the desirability of degrading a filter cake with the tackifying compounds disclosed therein. See Nguyen, entire disclosure, in response to applicant's arguments against the references *individually*, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

According to MPEP, to establish a prima facie case of obviousness, **three basic** criteria must be met. First, there must be some suggestion or motivation in the references themselves to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In *re* Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Nguyen teaches that **any** degradable tackifying compound may be used for coating chemical such as biocide or corrosion inhibitor including polyester and polyamide which degrade releasing acid. Thus, Nguyen teaches *implicitly* acid releasing tackifying compounds. Lee teaches that compounds that slowly hydrolyze and release an acidic by-product e.g. lactic polymer are suitable to be used to degrade a filter cake. First, there is a **clear motivation** to combine Nguyen with Lee to provide both slow release of the biocide or corrosion inhibitor and degrading a filter cake due to acid release. Second, one of ordinary skill in the art would have

reasonable expectation of success of using polylactide of Lee because Nguyen teaches other acid releasing tackifying compounds but does not limit the tackifying compounds to them. Finally, the references when combined teach or suggest all the claim limitations.

Therefore, the combination of Nguyen, Wang, and Lee meets all three basic criteria, and, thus, a prima facie case of obviousness has been established by the Examiner.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1792

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.
Primary Examiner
Art Unit 1792

April 2, 2009

/Elena Tsoy Lightfoot/